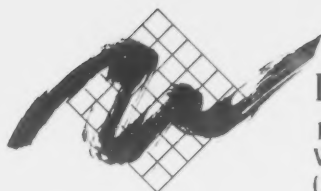


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INSTITUTE FOR WOMEN'S POLICY RESEARCH

1400 20th Street, NW, Suite 104
Washington, DC 20036
(202) 785-5100

WOMEN IN TELECOMMUNICATIONS:
AN EXCEPTION TO THE RULE

Heidi Hartmann

and

Roberta Spalter-Roth

Prepared with the assistance of
Linda Andrews, Wei Diao, and June Lapidus

July 1989

WOMEN IN TELECOMMUNICATIONS:

AN EXCEPTION TO THE RULE

Women workers in the telecommunications industry earn about the same wages, on average, as male workers economy-wide, in 1988, earning about \$440.00 weekly, or \$22,900 annually. Nationwide, only 17 percent of all women workers have earnings that high.¹ Women in telecommunications are an exception to the rule that women earn low pay for the work they do.

The telecommunications industry is the most highly unionized and best paid private service-producing industry. Fifty-five percent of non-supervisory workers are covered by a union contract compared to 13 percent in all the private service-producing industries taken together. Median weekly earnings of non-supervisory workers are \$504, compared to a median of \$254 weekly in all the private service industries. Yet contrary to expectation, women workers are more than half (52 percent) of the non-supervisory telecommunications workforce (see Table 4).

Maintaining a decent wage level in jobs typically held by women in communications is all the more important in view of

1 \$440 is the median weekly wage of non-supervisory, non-managerial, and non-professional full-time women workers in telecommunications in 1988 (IWPR tabulations). The median weekly earnings of full-time men workers (including supervisors, managers and professionals) are \$450 for 1988 (Employment and Earnings January 1989, Table 54). IWPR estimates that 17 percent of full-time non-managerial and non-professional women workers earn \$440 or more weekly.

changes underway in women's lives, in the labor force, and in the economy. Briefly put, these changes mean that:

- o women are increasingly responsible for the economic well-being of themselves and their families;
- o women will become an even larger share of the labor force; and
- o an even larger share of all jobs will be typically "women's jobs" in the service sector.

If wages in these jobs fall, or remain low--as many of them already are, the ability of all workers to maintain a decent standard of living will be increasingly jeopardized.

DATA AND METHODOLOGY

The data reported in this study (unless otherwise noted) are based on original tabulations of the 1988 Current Population Survey (CPS) by the Institute for Women's Policy Research (IWPR). The CPS is a monthly survey of a nationally-representative sample of approximately 60,000 households conducted by the Bureau of the Census. The labor force data are routinely analyzed by the Bureau of Labor Statistics and provide the basis for monthly national employment and unemployment statistics. The CPS also provides data on occupation, industry, earnings, and demographic information such as gender, race, marital status, number of children, and so on. Every other month one quarter of the sample respondents are rotated out of the survey; it is only the outgoing respondents who are asked questions on usual hours

worked, wages, earnings, and union affiliation. These outgoing respondents of the 1988 monthly CPS files were selected for a merged 1988 Earnings File created by the Bureau of Labor Statistics; this data file is used in this study. This merged tape results in a sample size large enough for reliable estimates of major industrial, occupational, regional, gender, and union status differences among workers, including similar differences among telecommunications workers, an investigation which would not be feasible if only one monthly CPS file were used.

Persons were selected for IWPR's analysis if they were employed as non-supervisory workers in the private service-producing industries. All workers who reported their occupations as managerial and professional workers, or as occupations in farming, forestry, and fishing occupations or armed forces' occupations (based on both two digit and three digit occupation codes) were also deleted. The remaining occupations were used in the analysis and categorized as follows:

- 1) Administrative support, including clerical
- 2) Precision production, craft, and repair
- 3) Technical, sales, and operatives including laborer and service occupations

The telecommunications industry was identified by its three-digit code, and the other private service-producing industries were identified by their major industrial code (two-digit code). The service-producing industries analyzed here are categorized as follows:

- 1) Telecommunications (detailed industry code=441)
- 2) Transportation
- 3) Public utilities and other (non 441) communications industries

- 4) Wholesale trade
- 5) Retail trade
- 6) Finance, insurance, and real estate (F.I.R.E.)
- 7) Personal and private household services
- 8) Business and repair services
- 9) Medical, including hospital services
- 10) Social services
- 11) Miscellaneous services including entertainment and recreation, educational, and other professional services.

Union coverage and earnings are analyzed by occupation and gender in these various service-producing industries. Hourly wage data are available only for hourly wage workers--those paid by the hour. Weekly wage data are available for salaried workers as well. Union coverage includes those workers who are either union members or are covered by a union contract. Using the weighted numbers from the CPS file, we obtained a population of 58.4 million non-supervisory service workers of which 840,755 workers are employed in the telecommunications industry.

WOMEN IN TELECOMMUNICATIONS

Ordinarily, the higher the proportion of women in the workforce of an industry or occupation the less its pay. Women are more than half of the telecommunications workforce, yet the industry is the best paid among the private service producing industries. The median weekly earnings (\$504) support a family of four at just above two times the official poverty level--a level that can be regarded as a minimal moderate standard of living.

Women's Wages Relatively High

As Table 1 shows, among the private service-producing industries, women in telecommunications have the highest earnings--\$440 weekly. Wages for women and men are low in most of the other service industries, generally, \$300 or less per week. The wage gap in medical, social and miscellaneous services is small, reflecting low wages for men as well as women in these industries.

TABLE 1. Percent Female, Weekly Earnings by Gender, and Female - Male Earnings Ratios for Service-Producing Industries
1988

INDUSTRY	PERCENT FEMALE	FEMALE EARNINGS	MALE EARNINGS	EARNINGS RATIO
TELECOMMUNICATIONS	51.7	440	572	76.9
TRANSPORTATION	24.7	322	460	70.0
UTILITIES/OTHER COMMUNICATIONS	24.8	338	475	71.3
WHOLESALE TRADE	28.7	267	391	68.4
RETAIL TRADE	53.6	139	214	64.9
F.I.R.E.	67.7	283	441	64.2
BUSINESS & REPAIR	40.9	213	288	73.9
PERSONAL/PRIVATE HOUSEHOLDS	78.0	129	211	61.1
MEDICAL	82.5	237	298	79.6
SOCIAL	77.2	163	153	106.5
MISCELLANEOUS	68.0	214	241	88.8
TOTAL FOR SERVICE INDUSTRIES	55.9	205	317	64.6

Source: Institute For Women's Policy Research tabulations of the 1988 Current Population Survey for non-supervisory, full-time and part-time, wage and salary workers.

Among the three better-paying industries, telecommunications, transportation, and utilities and other communications--telecommunications has the highest ratio of women's to men's wages (77 percent), and the smallest wage gap.

The earnings ratio in the United States as a whole is about 70 percent (for full-time weekly earnings, including supervisory workers). Thus, women in telecommunications fare well relative to women in other service industries and also do reasonably well relative to men in telecommunications, though the wage gap is not yet closed.

Of particular interest in telecommunications is that even women clerical workers are paid well relative to other industries. As Table 2 shows, clerical workers in most of the other service industries have very low earnings \$280 or less per week compared to \$426 weekly in telecommunications. Only in transportation are median weekly earnings for clerical workers slightly higher (\$429), perhaps reflecting the majority male (52.7 percent) clerical workforce in that industry--as well as high unionization rates. In 1988, economy-wide, the median weekly earnings for full-time female administrative support, including clerical, workers were \$305 weekly² (including supervisory workers) compared to \$424 weekly in telecommunications (not including supervisory workers). Telecommunications is an exception to the pattern of low pay in the service sector and in clerical jobs, where women generally predominate.

2 United States Department of Labor, Bureau of Labor Statistics, Employment and Earnings Vol. 36, No. 1, January 1989, Table 56 (p.221).

TABLE 2. Percent Female, Percent Unionized, and Weekly Earnings for the Clerical Occupation in the Service-Producing Industries 1988

INDUSTRY	PERCENT FEMALE	PERCENT UNION (men and women)	WEEKLY EARNINGS (men and women)
TELECOMMUNICATIONS	83.4	52.3	426
TRANSPORTATION	47.2	51.0	429
UTILITIES/OTHER COMMUNICATIONS	67.9	22.8	358
WHOLESALE TRADE	77.5	3.9	269
RETAIL TRADE	79.8	6.4	216
F.I.R.E.	85.5	2.5	277
BUSINESS & REPAIR	80.2	1.2	253
PERSONAL/PRIVATE HOUSEHOLDS	79.6	3.9	200
MEDICAL	92.3	7.6	257
SOCIAL	91.2	15.3	237
MISCELLANEOUS	90.8	13.2	241
TOTAL FOR CLERICAL OCCUPATIONS IN THE SERVICE INDUSTRIES	81.4	12.8	278

Source: Institute For Women's Policy Research tabulations of the 1988 Current Population Survey for non-supervisory, full-time and part-time, wage and salary workers.

Women and Unionization

Women in telecommunications are also nearly as likely as men in telecommunications to be covered by a union contract, 52 percent versus 59 percent, whereas economy-wide, only about 15 percent of women are covered compared to about 23 percent of men. (see Table 3).

The degree of unionization in telecommunications is exceptionally high, especially in light of the fact that unionization rates in other private-sector service industries are generally low, ranging from 4 to 15 percent. Those few other service-producing industries with relatively high union

representation (transportation, utilities and other communications) have a much smaller proportion of female workers (see Table 4). Nearly all the private-sector service industries as well as most other industries show wide disparity in the degree of unionization between women and men (Table 3).

TABLE 3. Unionization Rates for Men and Women in the Service Producing Industries
1988

INDUSTRY	<u>PERCENT UNION</u>		
	MALE	FEMALE	ALL
TELECOMMUNICATIONS	58.6	52.3	55.3
TRANSPORTATION	48.1	33.4	44.5
UTILITIES/OTHER COMMUNICATIONS	41.8	17.2	35.7
WHOLESALE TRADE	10.2	3.7	8.3
RETAIL TRADE	NA	NA	6.8
F.I.R.E.	6.3	2.3	3.6
BUSINESS & REPAIR	7.2	3.2	5.6
PERSONAL/PRIVATE HOUSEHOLDS	10.8	3.2	4.9
MEDICAL	18.8	10.7	12.1
SOCIAL	7.0	8.3	8.0
MISCELLANEOUS	NA	NA	14.9
TOTAL FOR SERVICE INDUSTRIES	NA	NA	12.6
TOTAL FOR ECONOMY*	22.5	15.0	19.0

Source: Institute For Women's Policy Research tabulations of the 1988 Current Population Survey for non-supervisory, full-time and part-time, wage and salary workers.

* The source for the total economy is Employment and Earnings, January 1989, based on CPS data and includes all employed wage and salary workers of all occupations including professionals, managers, and supervisors, whereas the industrial breakdown, based on IWPR tabulations of the 1988 CPS, excludes these workers. Our estimate of the total unionization rate (men and women) excluding managers and professionals is only slightly higher, 19.2 percent.

NA = Not Available

For example, in the utilities industry, 42 percent of the men but only 17 percent of the women are represented by unions.

Across most of the private sector, high unionization and the accompanying high wages are associated with predominantly male workforces--as in mining, construction, and durable goods manufacturing. In telecommunications, however, women as well as men benefit from union membership.

While it is somewhat difficult to measure the effect of unionization on wages net of other influences, researchers generally agree that unionization is associated with higher wages.³ Within the telecommunications industry, union-non-union wage differences are not, on average, large, especially for women workers (Table 3), but when statistical procedures are used to control for the influence of other factors, unionization is found to have a significant effect on wages for all groups of

3 In one research study that attempted to "hold everything else constant" (particularly the quality of the workers and the occupation and industry in which they work), Richard B. Freeman and Jonathan S. Leonard (in "Union Maids: Unions and the Female Workforce," pp. 189-216 in Clair Brown and Joseph Pechman, eds., Gender in the Workplace, Washington, DC: Brookings Institution, 1987) found that male union workers earned a premium of 18 percent on average and women union workers earned a premium of 14 percent an hour in the private sector. They found that the wage premium was higher for white collar women and women in the public sector. Measuring the effect of unionization on wage rates is complicated by the existence of spillover effects. To the extent that high union wages lead employers to offer high wages to nonunion employees in the same industry or occupation (in order to attract them), the differences between union and nonunion members will be small.

workers in all industries, more so than factors such as education, work experience, and firm size.⁴

TABLE 4. Percent Female, Percent Unionized, and Median Weekly Earnings for All Occupations in the Service-Producing Industries 1988

INDUSTRY	PERCENT FEMALE	PERCENT UNION (men and women)	WEEKLY EARNINGS (men and women)
TELECOMMUNICATIONS	51.9	55.3	504
TRANSPORTATION	24.7	44.5	426
UTILITIES/OTHER COMMUNICATIONS	24.8	35.7	441
WHOLESALE TRADE	28.7	8.3	355
RETAIL TRADE	53.6	6.8	173
F.I.R.E.	67.7	3.6	334
BUSINESS & REPAIR	40.9	5.6	257
PERSONAL/PRIVATE HOUSEHOLDS	78.0	4.9	147
MEDICAL	82.5	12.1	248
SOCIAL	77.2	8.0	161
MISCELLANEOUS	68.0	14.9	223
TOTAL SERVICE	55.9	12.6	254
TOTAL LABOR FORCE*	49.0	19.0	388

Source: Institute For Women's Policy Research tabulations of the 1988 Current Population Survey for non-supervisory, full-time and part-time, wage and salary workers.

* The source for the total labor force is the Bureau of Labor Statistics, unpublished tabulations from the Current Population Survey 1988 annual average. This total includes workers of all occupations including professionals, managers, and supervisors whereas the industrial breakdown excludes these workers.

4 See "Low-Wage Jobs and Workers: Trends and Options for Change." Washington, DC: Institute for Women's Policy Research, in press.

Currently non-supervisory union women in the telecommunications industry who are hourly wage workers not only earn higher wages than non-union women in this industry, they also earn higher wages than non-union men (\$11.25 per hour as compared to \$9.64 and \$10.00 per hour, respectively--see Table 5).

TABLE 5. Comparison of Wages for Union vs. Non-union Telecommunication Workers
(in dollars)

	UNION		NON-UNION	
	MALE	FEMALE	MALE	FEMALE
HOURLY WAGE WORKERS				
FULL-TIME/PART-TIME	14.61	11.25	10.00	9.64
FULL-TIME ONLY	14.65	11.23	10.00	10.00
EST. ANNUAL EARNINGS (full-time only)	30,472	23,358	20,800	20,800
WAGE AND SALARY WORKERS				
FULL-TIME/PART-TIME	589	444	500	401
FULL-TIME ONLY	591	444	519	418
EST. ANNUAL EARNINGS (full-time only)	30,732	23,088	26,988	21,736

Source: Institute For Women's Policy Research tabulations of the 1988 Current Population Survey for non-supervisory, full-time and part-time, wage and salary workers.

Women of Color in Telecommunications

Union membership has a particularly positive effect on the wages of women and men of color, when the influence of other factors is controlled. For women and men of color, who are less likely than whites to be able to benefit from advanced education, union membership significantly decreases the risk of long-term low-wage work.⁵

In the telecommunications industry, where they comprise 20 percent of all women workers, women of color especially benefit from union membership. They earn slightly higher weekly earnings than do unionized white women (\$448 per week as compared to \$444 per week, respectively), and their weekly earnings are 1.3 times higher than those of non-union women of color in the telecommunications industry (Table 6).

TABLE 6. Median Weekly Earnings by Race and Gender for Union and Non-Union Workers in the Telecommunications Industry

	UNION	NON-UNION
MEN		
White men	589	500
Minority men	566	475
WOMEN		
White women	444	418
Minority women	448	337

Source: Institute For Women's Policy Research tabulations of the 1988 Current Population Survey for non-supervisory, full-time and part-time, wage and salary workers.

5 See "Low-Wage Jobs and Workers: Trends and Options for Change." Washington, DC: Institute for Women's Policy Research, in press.

Likewise, men of color also benefit significantly from union membership, with weekly earnings that are 1.2 times higher than those of non-union men of color in this industry. Unionization clearly contributes to reducing the race-based wage gap, especially for women. For non-union women, the earnings ratio of minority to white women is 81, while for union women it is 100. For non-union men the earnings ratio is 95 while for union men it is 96.

Women and Equal Employment Opportunity

Women of all races have also made somewhat more progress in entering jobs that have been traditionally held by men in telecommunications than they have in entering such jobs in related industries such as transportation and utilities.

TABLE 7. Percent Female, Percent Unionized, and Weekly Earnings for Precision Production, Craft, and Repair Occupations

INDUSTRY	PERCENT FEMALE	PERCENT UNION (men and women)	WEEKLY EARNINGS (men and women)
TELECOMMUNICATIONS	13.6	64.7	592
TRANSPORTATION	1.0	53.0	499
UTILITIES/OTHER COMMUNICATIONS	3.5	48.6	539
WHOLESALE TRADE	4.9	13.5	377
RETAIL TRADE	14.2	12.2	334
F.I.R.E.	6.0	15.6	316
BUSINESS & REPAIR	4.0	7.3	346
PERSONAL/PRIVATE HOUSEHOLDS	18.4	9.1	282
MEDICAL	20.5	16.5	369
SOCIAL	19.9	3.1	263
MISCELLANEOUS	7.9	28.8	343
TOTAL SERVICE INDUSTRIES	8.4	25.4	403

Source: Institute For Women's Policy Research tabulations of the 1988 Current Population Survey for non-supervisory, full-time and part-time, wage and salary workers.

Table 7 shows the percentage of women in the precision production, craft, and repair jobs in each of the service industries; these jobs are all predominantly held by men and are higher paying than the clerical jobs, which are female-dominated (as can be seen in Table 2). Only in the personal, medical, and social services have women entered the precision production, craft, and repair jobs in greater proportions than in telecommunications.

Women in telecommunications generally benefitted from the 1973 consent decree between AT&T and the Equal Employment Opportunity Commission (EEOC), which opened up non-traditional jobs for women in the telecommunications industry and effectively raised women's wages by 11 percent.⁶ Since then wages of some of the traditionally female clerical jobs have also increased, so that women in telecommunications are able to earn a moderate standard of living. (We define a minimal moderate living standard as twice the government-set poverty level for a family of four, about \$23,200 in 1988.)

Nevertheless, a sex-based wage gap still exists in telecommunications (even though smaller than the national average and smaller than most of the other private service-producing industries) and women and men remain largely segregated by

6 See Phyllis A. Wallace, (ed.) Equal Employment and the AT&T Case, Cambridge: Massachusetts Institute of Technology Press, 1976, and Judith Gregory, et al., Women's Wages: A Key to Preserving Middle Income Jobs, Washington, DC: National Organization for Women, August 1986.

occupation within the industry.⁷ Women still have progress to make in integrating jobs and closing the wage gap. In the meantime, women benefit from a union strategy that keeps the wages of clerical jobs at or above a minimal moderate living standard.

WOMEN'S NEED FOR A LIVING WAGE

The ideal of a wage that could support a family at an adequate standard of living is a long standing bargaining standard for unions. Frequently, however, the ideal was extended only to male workers. Women, it was thought, would marry and be supported by a male breadwinner. But more and more women are either the sole support of their families, or responsible for maintaining their families' standard of living. The need for women workers to earn adequate wages has become increasingly pressing.

Currently half of all women workers who worked full-year are the major, if not the sole support, of their households--these include married women with unemployed husbands and single women with and without children--about 44 million women. Only 10 percent of these women earn a moderate income--200 percent of the

⁷ In fact, analysis by IWPR shows that within each occupational group in telecommunications, the gender-based wage gap is very small. The 23 percent wage gap in the industry then stems primarily from occupational segregation--women holding different jobs from men, rather than from women earning less than men in the same job.

poverty line for a family of four. Women with children who are the sole earners in their families are the most likely to earn below poverty wages--wages that if earned full-time would not yield an annual income above the poverty level for a family of four. Over half of single women with children and over two-thirds of married women with children who are the sole earners in their family earn below poverty wages. As a result, more than four out of ten children living in families with a sole low-wage earner are in poverty.⁸

For those women who are married to employed men, the husband's income is frequently not enough to support a family at a moderate standard of living. Many wives have gone into the labor force to increase their living standards. By 1986, 66.1 percent of married women worked for pay over the course of the year. Without the increased employment of wives, family living standards, which on the average increased 7.3 percent between 1979-1986, would have increased only by 4.9 percent. For those families in the middle of the income distribution, family income would have decreased by one percent, rather than increasing by

8 See Roberta Spalter-Roth, Heidi I. Hartmann, and Linda Andrews, "Who Needs a Family Wage? The Implications of Low-Wage Work for Family Well-Being," In Brigid O'Farrell, (ed.), Employer Policies and Working Families Washington, DC: National Academy Press, forthcoming.

three percent, if wives had not increased their labor force participation.⁹

These data show that women workers need adequate wages because they are likely to be either solely responsible for their own or their families' well-being or responsible for maintaining their families' living standard even if married to another worker.

GROWTH OF WOMEN IN THE WORKFORCE GROWTH OF SERVICE SECTOR

Maintaining a decent wage level in jobs typically held by women in communications is all the more important in view of changes underway in the labor force and the economy. Briefly put, those changes mean that women will become an even larger share of the labor force, and an even larger share of jobs will be typically "women's jobs" in the service sector. If wages in these jobs fall, or remain low--as many of them already are, the ability of all workers to maintain a decent standard of living will be increasingly jeopardized.

Women continue to increase their participation in the labor force. In 1950, less than 35 percent of women were working in paid employment, by 1985 the proportion working had risen to 55 percent, and by the year 2000, nearly 62 percent of all women

9 See Stephen Rose and David Fasenfest, "Family Income in the 1980s: New Pressure on Wives, Husbands, and Young Adults," Washington, DC: Economic Policy Institute, 1988.

over age 16 are expected to be in the labor force. By the year 2000, women are expected to make up 47.5 percent, or 67 million, of the total labor force of 139 million. Women are expected to account for nearly two-thirds (64 percent) of the net increase in the labor force between now and the year 2000.¹⁰

Just as women's supply to the labor market has grown, so too has the demand for women workers. The growth of the service sector (broadly defined as any activity not classified as agriculture, mining, construction, or manufacturing) has created employment opportunities for women, as the jobs women were already identified with--in health, education, and offices generally--grew rapidly. Between now and the year 2000, nearly all of the net new increase in jobs, 21 million, is expected to occur in the service-producing industries. The service sector will increase its share of total employment from 67 percent to 71 percent, while manufacturing will fall from 17 percent to 14 percent of the total labor force (according to the Bureau of Labor Statistics projections based on moderate economic growth).¹¹

The growth of the service sector has raised concern that much new job growth will be low-wage. Research by Harrison and

10 See Howard N. Fullerton, "Labor Force Projections: 1986 to 2000," United States Department of Labor, Bureau of Labor Statistics, Monthly Labor Review Vol. 110, No. 9, September 1987.

11 See Ronald E. Kutscher, "Overview and Implications of Projections to the Year 2000," United States Department of Labor, Bureau of Labor Statistics, Monthly Labor Review Vol. 110, No. 9, September 1987.

Bluestone concludes that middle-wage jobs declined as a proportion of all jobs between 1973 and 1986, while low-wage (and to a lesser extent high-wage) jobs increased their share.¹² In this context, if many Americans are to maintain a middle-class standard of living, the wages of many service sector jobs will have to be increased.

TELECOMMUNICATIONS: A MODEL FOR THE FUTURE

The telecommunications industry has been characterized by enormous technological change and vast increases in the speed and quality of service; the volume of telephone calls today could simply not be handled with yesterday's technology--every other worker would have to be a telephone worker (ie., 50 percent of the labor force). Workers in telecommunications have benefitted from the high rate of productivity growth through wage increases that generally keep pace with productivity improvements. But technological change has also meant that more work can be handled by fewer people.

While overall in the economy, employment is projected to grow by 1.3 percent per year between now and the year 2000, employment in the telecommunications industry is expected to decline 0.9 percent per year. Real output in telecommunications, however, is expected to increase by 3.7 percent per year, more

¹² See Bennett Harrison and Barry Bluestone, The Great U Turn. New York: Basic Books, 1988.

than 150 percent of the rate of growth of total economic output.¹³ Thus, productivity increases in the telecommunications industry will continue to be very large.

Some jobs, particularly telephone operators, will be especially hard hit, while others like mechanics, installers, and repairers are expected to decline only slightly. Substantial job growth (18 to 30 percent over the whole period) is expected for some technical personnel and marketing and sales workers. Occupational trends in the economy overall are similar to those in telecommunications, but not so extreme. Among jobs that will grow, but more slowly than all jobs, are clerical jobs and precision production, craft, and repair jobs, while employment for technical personnel and related support workers, sales, and service workers will grow more rapidly than total employment.

As can be seen in Table 8, in telecommunications these jobs (technical and sales)¹⁴ are less likely to be unionized, they pay

13 See Valerie A. Personick, "Industry Output and Employment Through the End of the Century," United States Department of Labor, Bureau of Labor Statistics, Monthly Labor Review Vol. 110, No. 9, September 1987.

14 Operatives and laborers are also included in this category in our tabulations of the CPS data; their numbers are not expected to experience above average growth. "Technical and Related Support Occupations," as used by the Census Bureau in the Current Population Survey, include such occupations as electrical and electronic technicians, industrial engineering technicians, mechanical engineering technicians, drafting occupations, computer programmers, and numerically controlled tool programmers. "Precision Production, Craft, and Repair" occupations include workers classified as repairers of electronic communication and industrial equipment, data processing equipment repairers, office machine repairers, the

middling wages--less than precision production, craft, and repair, but more than clerical and other administrative support jobs, and they are less likely than administrative support jobs to be held by women. The wage gap between men and women is also larger in this occupational group than in any other. (In other industries, this group of jobs often has low wages, less than \$250 weekly, as well as low rates of unionization.)

If wage growth and union strength are to continue in telecommunications this group of workers needs to be brought into union membership. If women's employment opportunities in the industry are to be maintained, their share of jobs in the new technical work (much of it computer based), technical support, and sales must grow. Characteristic of many of the new jobs in the new economy is that they combine skills from traditional, male- and female-dominated jobs--clerical and human interaction skills with craft and technical skills. Sales as well as repair work is increasingly computer based; all workers will need greater computer literacy skills--which are based on reading, writing, math, and logic skills, and many will need increased human relations skills.¹⁵ If the new jobs are to be rewarded fairly, the components associated with traditionally female jobs

traditional construction crafts (plumbing, electricity, carpentry, masonry, and metal work), tool and die makers, machinists, electrical and electronic equipment assemblers, and so on.

15 See Heidi I. Hartmann, Robert Kraut, and Louise Tilly, (eds.), Computer Chips and Paper Clips: Technology and Women's Employment. Washington, DC: National Academy Press, 1986.

as well as those associated with traditionally male jobs must receive decent pay.

TABLE 8. Percent Female, Percent Unionized, and Weekly Earnings for Technical, Sales, and Operatives Occupations

INDUSTRY	PERCENT FEMALE	PERCENT UNION (men and women)	WEEKLY EARNINGS (men and women)
TELECOMMUNICATIONS	44.0	43.8	533
TRANSPORTATION	16.1	39.3	411
UTILITIES/OTHER COMMUNICATIONS	14.2	31.3	395
WHOLESALE TRADE	15.5	9.2	381
RETAIL TRADE	53.9	6.4	155
F.I.R.E.	41.3	4.6	436
BUSINESS & REPAIR	35.0	7.2	225
PERSONAL/PRIVATE HOUSEHOLDS	79.9	4.9	136
MEDICAL	80.8	13.9	239
SOCIAL	74.3	5.7	132
MISCELLANEOUS	50.7	15.4	195
TOTAL	51.3	10.9	226

Source: Institute For Women's Policy Research tabulations of the 1988 Current Population Survey for non-supervisory, full-time and part-time, wage and salary workers.

As noted above, because these changes are occurring in an extreme form in the telecommunications industry (due to a very rapid rate of technological change), what happens with jobs and compensation in telecommunications will serve as a bellwether for expected changes in the economy as a whole. The new technical, technical support, and sales jobs are growing throughout the economy.

RECENT WAGE DEVELOPMENTS IN TELECOMMUNICATIONS:
AN EXAMPLE FROM THE MIDWEST

According to the CPS data, about 22 percent of non-supervisory telephone workers reside in the midwest.¹⁶ Telecommunications workers in the midwest are more highly unionized than in other regions, 70 percent compared to the national average of 55 percent, and the union-non-union wage differential is larger in the midwest than elsewhere, \$3.52 more per hour for union workers in the midwest compared to \$2.72 nationally.

But recent developments in ongoing bargaining between the unions and management in the midwest might lead to increases in the gender-based wage gap. One such development is a proposal by Illinois Bell that provides a five percent wage increase in the first year of the proposed contract. However, the first \$1,000 of this increase would be in the form of a cash bonus that would not be added to the worker's base wages. Percentage increases in subsequent years would be applied only to the new base wages not to the bonus. What would be the impact of this proposal on earnings?

Chart 1 illustrates the impact of this proposal on unionized non-supervisory workers in the midwest region. The result would be to increase the size of the wage gap between women and men by

16 The midwest states in this analysis are: Ohio, Indiana, Illinois, Michigan, Wisconsin, Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, and Kansas.

reducing the earnings ratio between women and men from the current 76.4 cents earned by union women for every \$1.00 earned by union men to 75.6 cents for every \$1.00. Because this proposal would increase the base wages of lower-paid, clerical workers (largely female) by a significantly lesser amount than it would the base wages of higher-paid mechanics and repair workers (largely male), it can be viewed as an anti-pay equity policy that would increase inequality between women and men in the industry, as well as between typically male- and female-dominated jobs.

This proposal would have serious implications for women in the telecommunications industry for it would widen the wage gap, a wage gap that has been decreasing since the historic AT&T/EEOC agreement. The proposals are especially regressive in the face of decreases in the wage gap between women and men nationally, as reported by the U.S. Bureau of the Census.¹⁷

The proposal would also begin to erode the ability of clerical workers in the telecommunications industry to earn a minimal moderate standard of living--currently, a positive exception to the low-wages earned by most non-supervisory women workers in the service sector.

17 See National Committee on Pay Equity with the Institute for Women's Policy Research, Briefing Paper #1: The Wage Gap, Washington, DC: National Committee on Pay Equity, 1989. Overall, the wage gap has shrunk by about 15 percent since 1959. The ratio of women's earnings to men's for full-time year-round workers increased from 59 percent to 65 percent.

CHART 1.

Estimated Impact of Proposed Illinois Bell Settlement on
Wage-Gap in Base Pay between Male and Female Union Workers

1988 Annual Earnings for Full-Time, Non-
Supervisory Female Worker in the Midwestern Region =

\$ 22,256

x .05 percent wage increase
\$ 1,113

less 1,000 bonus
\$ 113 added to base pay

\$ 22,369 new base wages

1988 Annual Earnings for Full-time, Non-Supervisory
Male Worker in the Midwestern Region =

\$ 29,120

x .05 percent wage increase
\$ 1,456

less 1,000 bonus
\$ 456 added to base pay

\$ 29,576 new base wages

Female/Male Wage Ratio Before Proposal

= 76.4 cents for every \$1.00 (\$22,256/29,120)

Size of Gap = \$6,864

Female/Male Wage Ratio If Proposal is Implemented

= 75.6 cents for every \$1.00 (\$22,369/29,576)

Size of Gap = \$7,207

Source: Institute For Women's Policy Research Calculation
Based on the 1988 Current Population Survey

Proposals such as this appear to be an effort to *begin* to reduce women's earnings in the telecommunications industry to the lowest-common denominator, the wages earned by women workers in other service sector industries. Such wage reductions are also at odds with current economic strategies to enhance productivity in the service sector by increasing the investment in human resources, technology, and research and development rather than by decreasing wages.¹⁸

CONCLUSION

The telecommunications industry, even more so than the economy generally, is undergoing a profound transformation of work as technological change proceeds rapidly. In addition, the Bureau of Labor Statistic cites increased competition within the industry as contributing to an overall employment decline in telecommunications.¹⁹ Employment in many occupations will actually drop, while in others it will grow modestly, and in still others it will grow substantially more than average. In nearly all occupations work is being transformed, and more and more jobs embody the skills of both the traditionally male and traditionally female jobs. While the future is never entirely clear, it appears that some of the better paid unionized jobs

18 See Lester Thurow, Toward a High-Wage, High-Productivity Service Sector, and Louise Waldstein, Service Sector Wages and Job Creation in the U.S. and Other Countries, Washington, DC: Economic Policy Institute, 1989.

19 See Valerie A. Personick, "Industry Output and Employment Through the End of the Century," United States Department of Labor, Bureau of Labor Statistics, Monthly Labor Review Vol. 110, No. 9., September 1987.

will lose employment, while most of the new employment will be in sales and new types of technical and technical support jobs where unionization has been less common.

Currently, telecommunications is the wage leader among private service-producing industries. If workers in this industry are to maintain their wages, wages cannot be allowed to deteriorate as work is transformed and new types of sales, service, and technical jobs in this industry grow. Both the female and the male features of jobs will have to be rewarded fairly. In this context, it is particularly important that compensation proposals that would lead to greater gender-based wage inequality not be implemented. It is also important that both management and unions pay greater attention to the new jobs being created to make sure they are fairly compensated. Union strength may erode as jobs that have been traditionally organized decline in number or grow more slowly, posing yet another challenge for unions in an industry characterized by economic restructuring as well as rapid technological change.

Workers in the telecommunications industry will not be able to maintain a middle-class standard of living unless the wage leadership exhibited by the industry is maintained, and new jobs are paid at least as well as current jobs. As the service sector of the economy continues to grow and work throughout the economy is transformed, wages for all service sector jobs will have to be increased to the standard set by the telecommunications industry, if the United States is to continue to have a sizeable middle class.